



TRMM Flight Operations Monthly Status Review (MSR)

September 8, 2003



FOT Subsystem Overview

- Operations Status
 - Flight Ops Summary - Lou Kurzmiller
 - Electrical/Thermal - Dave Sepan
 - RCS - Dave Sepan
 - ACS - Dave Sepan
 - Deployables - Joe Kowalski
 - FDS - Joe Kowalski
 - Power - Nega Berhanu
 - C&DH & RF/Comm - Nega Berhanu
 - LIS - Nega Berhanu
 - CERES & VIRS – David Sepan
 - TMI - Dave Sepan
 - PR - Joe Kowalski
 - Ground System – Joe Kowalski
 - Upcoming Activities – Joe Kowalski



Flight Operations Summary

- Supported 517 SN events in August
 - 2 Yaw Maneuvers; now +X as of 23 Aug 03
 - 2 Delta-V Maneuvers; #441 & #442
- No Anomaly Rpts, 1 Event Report & 4 Late Acqs
 - ER #311: MOC Equip; String 1 failure (15 Aug)
 - 4 Generic Late Acqs on 05, 08, 19 & 22 August
 - No data loss incurred



Flight Operations Summary

- Notable Events:
 - Continued support of AutoFDS implementation effort
 - Began support of Automation/paging effort
 - Continued Power Subsystem switch to VT6

- FOT Concerns:
 - Retain FOT talent/experience, sufficient to handle all tasks
 - Aging MOC equipment
 - Support new ground system initiatives (challenge vice concern)
 - Any potential s/c problem



Thermal / Electrical Subsystems

- The Thermal subsystem remains nominal
- The Electrical subsystem remains nominal



RCS Subsystem

- RCS performed 2 successful Delta-V maneuvers (#441 - #442)
 - Current fuel remaining is 203 kg by the mass flow method.
 - Current fuel remaining by the PVT method is 183 kg.
 - Current Precision Pressure Transducer level is down to 152.9 psia.
- RCS subsystem is in “blow down” mode and is no longer pressure regulated.
- The current EOL estimate at 402.5 km is late 2004 using 134 kg of fuel as a baseline for controlled re-entry.
- Upcoming Events
 - Continue to review and train with Delta-H procedure, EOL scripts, and the “one-shot” procedure.
 - Review all required steps for a 30+ minute Delta-V maneuver and test with the simulator.



ACS Subsystem

- ACS is performing nominally.
- The FOT engineers have been in contact with Alan Reth concerning TRMM ACS CSS data.
- Upcoming Activities:
 - Copy ACS Contingency Tables 81, 90, and 102 to EEPROM and load Table 80 to EEPROM.
 - Test and Load new Delta-V warmstart contingency software.



Deployables Subsystem

- -Y SA Sticking Anomaly On-going Work
 - Configure ACE for 15° in Safehold. (Do we want to do this?)
 - SunAcq configured back to 0° pitch in RAM and EEPROM remains at 15° pitch until the investigation is completed.



FDS Subsystem

- The FDS Subsystem remains nominal



Power Subsystem

- The Power system was configured to VT 6 (5x) in order to recharge the battery from 03-224 (Tue., August 12th) to 03-239 (Wed August 27th).
- Regarding power for the month of September, the Beta Angle information is:
 - » 03/249 (9/6/03): 41.4 degrees (max)
 - » 03/257 (9/14/03): 20 degrees
 - » 03/262 (9/19/03): 0 degree
 - » 03/266 (9/23/03): -20 degrees
 - » 03/273 (9/30/03): -38 degrees (max)
- No Open issues.



RF Subsystem

- 4 Late Acquisitions occurred during this report period.
 - GLA #144: Occurred on 03-217 (August 5th) during the 09:08z TDS/SA1 event. Acquisition was 1:12 min late. 1 GCMR was sent; No impact on data storage activities.
 - GLA #145: Occurred on 03-220 (August 8th) during the 02:13:22z TDW/SA1 event. Acquisition was 1:13 min late. 1 GCMR was sent; No impact on data storage activities.(CDS-30835)
 - GLA #146: Occurred on 03-231 (August 19th) during the 05:05z TDW/SA1 event. Acquisition was 1:09 min late. 1 GCMR was sent; No impact on data storage activities
 - GLA #147: Occurred on 03-234 (August 22nd) during the 14:27z TDE/SA1 event. Acquisition was 2:14 min late. 2 GCMRs were sent; No impact on data storage activities
- No RF-related Event Report since last MSR.
- Frequency offsets (monthly average)
 - Transponder #1 = - 77.375 Hz
 - Transponder #2 = + 249.636 Hz

No open issues



C&DH Subsystems

- UTCF/FS Status:
 - 1 UTCF Adjustment was performed on 03-241 (Sat., August 29th)
 - » Current UTCF value is 31535996.783106 sec
 - » Current FS value is x'81A'
 - No Open issues



LIS Instrument

- 1 Routine MSFC real-time command request was performed on 03-230 (Mon., August 18th) to reduce packet sequence errors.
- No open issues



CERES/VIRS Instruments

- **CERES.**

- Powered OFF.

- **VIRS**

- VIRS continues to operate nominally.
- On 03-216 (August 4th) two VIRS Solar Calibrations were performed at 06:47:40z and 08:20:08z.



PR/TMI Instruments

- No open issues with the PR instrument
- 3 PREXTCALA Requests
 - 03-213 (August 1st) Bin #58
 - 03-214 (August 2nd) Bin #38
 - 03-215 (August 3rd) Bin #34
- No open issues with the TMI instrument



Ground System / Security

- AutoFDS parallel testing began on 03-230 (August 18th) with AutoFDS as backup and FDF as prime
- TR1XT4 x-term was replaced on 03-240 (August 28th)
- TR2XT1 and all of string 3 had IT Security Scan performed on 03-246 (September 3rd)



Upcoming Activities

- 0-2 Months
 - Load new Evacuation Contingency configuration (Goto SunAcq).
 - » SC RTS
 - » SC TSM
 - » Reallocate VR space
 - Pitch 15° in SunAcq and Safehold or not?
 - Load new warmstart during Delta-V fix
 - » ACS TSM, ACS RTS, ACS System Table #99
 - Place remaining permanent table / patch changes into EEPROM
 - Support finalization of TRMM End of Life and Reentry Plan
 - Continue Testing of Auto-FDS
 - Support MOC Re-engineering effort



Upcoming Activities

- 2-3 Months
 - Participate in End of Life Plan review(s)
 - End Of Life Plan Testing, and Simulations
 - Continue to close open CCRs, MOCRs, and MSR Action Items